

10/506997

SEQUENCE LISTING

DT09 Rec'd PCT/PTO 04 SEP 2004

<110> Zhu, Zhenping

<120> Human Antibodies Specific To KDR And Uses Thereof

<130> 11245/47876

<140> not assigned

<141> 2003-03-04

<150> 60/361,783

<151> 2002-03-04

<160> 93

<170> WordPerfect 8.0 for Windows

<210> 1

<211> 11

<212> PRT

<213> Human

<400> 1

Arg Ala Ser Gln Ser Val Ser Ser Tyr Leu Ala
5 10

<210> 2

<211> 7

<212> PRT

<213> Human

<400> 2

Asp Ser Ser Asn Arg Ala Thr
5

<210> 3

<211> 9

<212> PRT

<213> Human

<400> 3

Leu Gln His Asn Thr Phe Pro Pro Thr
5

<210> 4

<211> 11

<212> PRT

<213> Human

<400> 4

Arg Ala Ser Gln Gly Ile Ser Ser Arg Leu Ala
5 10

<210> 5

<211> 7

<212> PRT

<213> Human

<400> 5

Ala Ala Ser Ser Leu Gln Thr
5

<210> 6

<211> 9

<212> PRT

<213> Human

<400> 6

Gln Gln Ala Asn Arg Phe Pro Pro Thr
5

<210> 7

<211> 14

<212> PRT

<213> Human

<400> 7

Ala Gly Thr Thr Thr Asp Leu Thr Tyr Tyr Asp Leu Val Ser
5 10

<210> 8

<211> 7

<212> PRT

<213> Human

<400> 8

Asp Gly Asn Lys Arg Pro Ser
5

<210> 9

<211> 10

<212> PRT

<213> Human

<400> 9

Asn Ser Tyr Val Ser Ser Arg Phe Tyr Val
5 10

<210> 10

<211> 13

<212> PRT

<213> Human

<400> 10

Ser Gly Ser Thr Ser Asn Ile Gly Thr Asn Thr Ala Asn
5 10

<210> 11

<211> 7

<212> PRT

<213> Human

<400> 11

Asn Asn Asn Gln Arg Pro Ser
5

<210> 12

<211> 12

<212> PRT

<213> Human

<400> 12

Ala Ala Trp Asp Asp Ser Leu Asn Gly His Trp Val
5 10

<210> 13

<211> 10

<212> PRT

<213> Human

<400> 13

Gly Phe Thr Phe Ser Ser Tyr Ser Met Asn
5 10

<210> 14

<211> 17

<212> PRT

<213> Human

<400> 14

Ser Ile Ser Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val Lys
5 10 15

Gly
17

<210> 15

<211> 7

<212> PRT

<213> Human

<400> 15

Val Thr Asp Ala Phe Asp Ile
5

<210> 16

<211> 10

<212> PRT

<213> Human

<400> 16

Gly Gly Thr Phe Ser Ser Tyr Ala Ile Ser
5 10

<210> 17
 <211> 18
 <212> PRT
 <213> Human

<400> 17

Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe
 5 10 15
 Gln Gly
 18

<210> 18
 <211> 16
 <212> PRT
 <213> Human

<400> 18

Gly Tyr Asp Tyr Tyr Asp Ser Ser Gly Val Ala Ser Pro Phe Asp Tyr
 5 10 15

<210> 19
 <211> 375
 <212> DNA
 <213> Human

<400> 19

gag gtc cag ctg gtg cag tct ggg gct gag gtg aag aag cct ggg gcc	48
Glu Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala	
5 10 15	
tca gtg aag gtc tcc tgc aag gct tct gga ggc acc ttc agc agc tat	96
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser Tyr	
20 25 30	
gct atc agc tgg gtg cga cag gcc cct gga caa ggg ctt gag tgg atg	144
Ala Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met	
35 40 45	
gga ggg atc atc cct atc ttt ggt aca gca aac tac gca cag aag ttc	192
Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe	
50 55 60	
cag ggc aga gtc act ttt acc gcg gac aaa tcc acg agt aca gcc tat	240
Gln Gly Arg Val Thr Phe Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr	
65 70 75 80	
atg gag ttg agg agc ctg aga tct gac gac acg gcc gtg tat tac tgt	288
Met Glu Leu Arg Ser Leu Arg Ser Asp Thr Ala Val Tyr Tyr Cys	
85 90 95	
gcg aga gga tac gat tac tat gat agt agt ggc gtg gct tcc ccc ttt	336
Ala Arg Gly Tyr Asp Tyr Tyr Asp Ser Ser Gly Val Ala Ser Pro Phe	
100 105 110	
gac tac tgg ggc cag gga acc ctg gtc acc gtc tca agc	375
Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser	
115 120 125	

<400> 20

<210>	21
<211>	333
<212>	DNA
<213>	Human

<400> 21

cag	tct	gtg	ctg	act	cag	cca	ccc	tca	gcg	tct	ggg	acc	ccc	ggg	cag	48
Gln	Ser	Val	Leu	Thr	Gln	Pro	Pro	Ser	Ala	Ser	Gly	Thr	Pro	Gly	Gln	
				5					10					15		
agg	gtc	acc	atc	tct	tgt	tct	gga	agc	acc	tcc	aac	atc	ggt	act	aat	96
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Thr	Ser	Asn	Ile	Gly	Thr	Asn	
			20					25					30			
act	gca	aac	tgg	ttc	cag	cag	ctc	cca	gga	acg	gcc	ccc	aaa	ctc	ctc	144
Thr	Ala	Asn	Trp	Phe	Gln	Gln	Leu	Pro	Gly	Thr	Ala	Pro	Lys	Leu	Leu	
		35					40					45				
atc	cac	aat	aat	aat	cag	cgg	ccc	tca	ggg	gtc	cct	gac	cga	ttc	tct	192
Ile	His	Asn	Asn	Asn	Gln	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	
	50					55					60					
ggc	tcc	aag	tct	ggc	acc	tca	gcc	tcc	ctg	gcc	atc	agt	ggg	ctc	cag	240
Gly	Ser	Lys	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Ser	Gly	Leu	Gln	
65					70					75					80	
tct	gag	gat	gag	gct	gat	tat	tac	tgt	gca	gca	tgg	gat	gac	agc	ctg	288
Ser	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Ala	Ala	Trp	Asp	Asp	Ser	Leu	
				85					90					95		
aat	ggc	cat	tgg	gtg	ttc	ggc	gga	ggg	acc	aag	ctg	acc	gtc	ctg		333

Asn Gly His Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 22
 <211> 111
 <212> PRT
 <213> Human

<400> 22

Gln Ser Val Leu Thr Gln Pro Pro Ser Ala Ser Gly Thr Pro Gly Gln
 5 10 15
 Arg Val Thr Ile Ser Cys Ser Gly Ser Thr Ser Asn Ile Gly Thr Asn
 20 25 30
 Thr Ala Asn Trp Phe Gln Gln Leu Pro Gly Thr Ala Pro Lys Leu Leu
 35 40 45
 Ile His Asn Asn Asn Gln Arg Pro Ser Gly Val Pro Asp Arg Phe Ser
 50 55 60
 Gly Ser Lys Ser Gly Thr Ser Ala Ser Leu Ala Ile Ser Gly Leu Gln
 65 70 75 80
 Ser Glu Asp Glu Ala Asp Tyr Tyr Cys Ala Ala Trp Asp Asp Ser Leu
 85 90 95
 Asn Gly His Trp Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 23
 <211> 348
 <212> DNA
 <213> Human

<400> 23

gag gtg cag ctg gtg cag tct ggg gga ggc ctg gtc aag cct ggg ggg 48
 Glu Val Gln Leu Val Gln Ser Gly Gly Leu Val Lys Pro Gly Gly 15
 5 10
 tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat 96
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr 30
 20 25 30
 agc atg aac tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc 144
 Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val 45
 35 40 45
 tca tcc att agt agt agt agt agt tac ata tac tac gca gac tca gtg 192
 Ser Ser Ile Ser Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val 60
 50 55 60
 aag ggc cga ttc acc atc tcc aga gac aac gcc aag aac tca ctg tat 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr 80
 65 70 75 80
 ctg caa atg aac agc ctg aga gcc gag gac acg gct gtg tat tac tgt 288
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys 95
 85 90 95

gcg aga gtc aca gat gct ttt gat atc tgg ggc caa ggg aca atg gtc 336
 Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val
 100 105 110

acc gtc tca agc 348
 Thr Val Ser Ser
 115

<210> 24
 <211> 116
 <212> PRT
 <213> Human

<400> 24

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20 25 30
 Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Ser Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 25
 <211> 321
 <212> DNA
 <213> Human

<400> 25

gaa att gtg atg aca cag tct cca gcc acc ctg tct ttg tct cca ggg 48
 Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
 5 10 15
 gaa aga gcc acc ctc tcc tgc agg gcc agt cag agt gtt agc agc tac 96
 Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
 20 25 30
 tta gcc tgg tac caa cag aaa cct ggc cag gct ccc agg ctc ctc atc 144
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
 35 40 45
 tat gat tca tcc aac agg gcc act ggc atc cca gcc aga ttc agt ggc 192
 Tyr Asp Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
 50 55 60
 agt ggg tct ggg aca gac ttc act ctc acc atc agc agc cta gag cct 240

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80
gaa gat ttt gca act tat tac tgt cta cag cat aac act ttt cct ccg 288
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Phe Pro Pro
85 90 95
acg ttc ggc caa ggg acc aag gtg gaa atc aaa 321
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 26
<211> 107
<212> PRT
<213> Human

<400> 26

Glu Ile Val Met Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
5 10 15
Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Ser Tyr
20 25 30
Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile
35 40 45
Tyr Asp Ser Ser Asn Arg Ala Thr Gly Ile Pro Ala Arg Phe Ser Gly
50 55 60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Glu Pro
65 70 75 80
Glu Asp Phe Ala Thr Tyr Tyr Cys Leu Gln His Asn Thr Phe Pro Pro
85 90 95
Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys
100 105

<210> 27
<211> 348
<212> DNA
<213> Human

<400> 27

gag gtc cag ctg gtg cag tct ggg gga ggc ctg gtc aag cct ggg ggg 48
Glu Val Gln Leu Val Gln Ser Gly Gly Gln Val Lys Pro Gly Gly
5 10 15
tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat 96
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
agc atg aac tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc 144
Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
tca tcc att agt agt agt agt agt tac ata tac tac gca gac tca gtg 192
Ser Ser Ile Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val
50 55 60
aag ggc cga ttc acc atc tcc aga gac aac gcc aag aac tca ctg tat 240

Lys	Gly	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Lys	Asn	Ser	Leu	Tyr	
65					70					75					80	
ctg	caa	atg	aac	agc	ctg	aga	gcc	gag	gac	acg	gct	gtg	tat	tac	tgt	288
Leu	Gln	Met	Asn	Ser	Leu	Arg	Ala	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys	
				85					90					95		
gcg	aga	gtc	aca	gat	gct	ttt	gat	atc	tgg	ggc	caa	ggg	aca	atg	gtc	336
Ala	Arg	Val	Thr	Asp	Ala	Phe	Asp	Ile	Trp	Gly	Gln	Gly	Thr	Met	Val	
			100					105					110			
acc	gtc	tca	agc													348
Thr	Val	Ser	Ser													
			115													

<210> 28
 <211> 330
 <212> DNA
 <213> Human

<400> 28

cag	tct	gcc	ctg	act	cag	cct	gcc	tcc	ctg	tct	ggg	tct	cct	gga	cag	48
Gln	Ser	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Leu	Ser	Gly	Ser	Pro	Gly	Gln	
				5					10					15		
tcg	atc	acc	atc	tcc	tgc	gct	gga	acc	acc	act	gat	ctt	aca	tat	tat	96
Ser	Ile	Thr	Ile	Ser	Cys	Ala	Gly	Thr	Thr	Thr	Asp	Leu	Thr	Tyr	Tyr	
			20					25					30			
gac	ctt	gtc	tcc	tgg	tac	caa	cag	cac	cca	ggc	caa	gca	ccc	aaa	ctc	144
Asp	Leu	Val	Ser	Trp	Tyr	Gln	Gln	His	Pro	Gly	Gln	Ala	Pro	Lys	Leu	
		35				40					45					
gtg	att	tat	gac	ggc	aat	aag	cgg	ccc	tca	gga	gtt	tct	aat	cgc	ttc	192
Val	Ile	Tyr	Asp	Gly	Asn	Lys	Arg	Pro	Ser	Gly	Val	Ser	Asn	Arg	Phe	
	50				55					60						
tct	ggc	tcc	aag	tct	ggc	aac	acg	gcc	tcc	ctg	aca	atc	tct	gga	ctc	240
Ser	Gly	Ser	Lys	Ser	Gly	Asn	Thr	Ala	Ser	Leu	Thr	Ile	Ser	Gly	Leu	
65				70						75					80	
cag	gct	gag	gac	gag	gct	gat	tat	tac	tgc	aac	tca	tat	gta	agc	agc	288
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Asn	Ser	Tyr	Val	Ser	Ser	
				85					90					95		
agg	ttt	tat	gtc	ttc	gga	act	ggg	acc	aag	gtc	acc	gtc	cta			330
Arg	Phe	Tyr	Val	Phe	Gly	Thr	Gly	Thr	Lys	Val	Thr	Val	Leu			
			100				105						110			

<210> 29
 <211> 110
 <212> PRT
 <213> Human

<400> 29

Gln	Ser	Ala	Leu	Thr	Gln	Pro	Ala	Ser	Leu	Ser	Gly	Ser	Pro	Gly	Gln	
				5					10					15		
Ser	Ile	Thr	Ile	Ser	Cys	Ala	Gly	Thr	Thr	Thr	Asp	Leu	Thr	Tyr	Tyr	
			20					25					30			

Asp Leu Val Ser Trp Tyr Gln Gln His Pro Gly Gln Ala Pro Lys Leu
 35 40 45
 Val Ile Tyr Asp Gly Asn Lys Arg Pro Ser Gly Val Ser Asn Arg Phe
 50 55 60
 Ser Gly Ser Lys Ser Gly Asn Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Val Ser Ser
 85 90 95
 Arg Phe Tyr Val Phe Gly Thr Gly Thr Lys Val Thr Val Leu
 100 105 110

<210> 30
 <211> 348
 <212> DNA
 <213> Human

<400> 30

gaa gtg cag ctg gtg cag tct ggg gga ggc ctg gtc aag cct ggg ggg 48
 Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 5 10 15
 tcc ctg aga ctc tcc tgt gca gcc tct gga ttc acc ttc agt agc tat 96
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20 25 30
 agc atg aac tgg gtc cgc cag gct cca ggg aag ggg ctg gag tgg gtc 144
 Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 tca tcc att agt agt agt agt agt tac ata tac tac gca gac tca gtg 192
 Ser Ser Ile Ser Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val
 50 55 60
 aag ggc cga ttc acc atc tcc aga gac aac gcc aag gac tca ctg tat 240
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asp Ser Leu Tyr
 65 70 75 80
 ctg caa atg aac agc ctg aga gcc gag gac acg gct gtg tat tac tgt 288
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 gcg aga gtc aca gat gct ttt gat atc tgg ggc caa ggg aca atg gtc 336
 Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val
 100 105 110
 acc gtc tca agc 348
 Thr Val Ser Ser
 115

<210> 31
 <211> 116
 <212> PRT
 <213> Human

<400> 31

Glu Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20 25 30
 Ser Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Ser Ile Ser Ser Ser Ser Ser Tyr Ile Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asp Ser Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Arg Val Thr Asp Ala Phe Asp Ile Trp Gly Gln Gly Thr Met Val
 100 105 110
 Thr Val Ser Ser
 115

<210> 32
 <211> 321
 <212> DNA
 <213> Human

<400> 32

gac atc cag ttg acc cag tct cca tct tct gtg tct gca tct gta gga 48
 Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 5 10 15
 gac aga gtc acc atc act tgt cgg gcg agt cag ggt att agt agt cgg 96
 Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Ser Ser Arg
 20 25 30
 tta gcc tgg tat cag cag aaa cca ggg aaa gcc cct aag ctc ctg atc 144
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Leu Leu Ile
 35 40 45
 tat gct gca tcc agt ttg caa act ggg gtc cca tca agg ttc agc ggc 192
 Tyr Ala Ala Ser Ser Leu Gln Thr Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60
 agt gga tct ggg aca gat ttc act ctc act atc agc agc ctg cag cct 240
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
 65 70 75 80
 gaa gat ttt gca act tac tat tgt caa cag gct aac agg ttc cct ccg 288
 Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Arg Phe Pro Pro
 85 90 95
 act ttc ggc cct ggg acc aaa gtg gat atc aaa 321
 Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
 100 105

<210> 33
 <211> 107
 <212> PRT
 <213> Human

<400> 33

<400> 35

<400> 37

<400> 39

Gln Ser Ala Leu Thr Gln Pro Ala Ser Val Ser Gly Ser Arg Gly Gln
 5 10 15

Ser Ile Thr Leu Ser Cys Thr Gly Ser Ser Thr Asp Val Gly Asn Tyr
 20 25 30

Asn Tyr Ile Ser Trp Tyr Gln Gln His Pro Gly Gln Ala Pro Lys Leu
 35 40 45

Leu Ile Tyr Asp Val Thr Ser Arg Pro Ser Gly Val Ser Asp Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Leu Thr Ala Ser Leu Thr Ile Ser Gly Leu
 65 70 75 80

Gln Pro Glu Asp Glu Ala Asp Tyr Tyr Cys Asn Ser Tyr Ser Ala Thr
 85 90 95

Asp Thr Leu Val Phe Gly Gly Gly Thr Lys Leu Thr Val Leu
 100 105 110

<210> 40
 <211> 333
 <212> DNA
 <213> Human

<400> 40

cag gct gtg ctg act cag ccg tcc tca gtg tct ggg gcc cca gga cag 48
 Gln Ala Val Leu Thr Gln Pro Ser Ser Val Ser Gly Ala Pro Gly Gln
 5 10 15

agg gtc acc atc tcc tgc act ggg caa agc tcc aat atc ggg gca gat 96
 Arg Val Thr Ile Ser Cys Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp
 20 25 30

tat gat gta cat tgg tac cag caa ttt cca gga aca gcc ccc aaa ctc 144
 Tyr Asp Val His Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Leu
 35 40 45

ctc atc tat ggt cac aac aat cgg ccc tca ggg gtc cct gac cga ttc 192
 Leu Ile Tyr Gly His Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

tct ggc tcc aag tct ggc acc tca gtc tcc ctg gtc atc agt ggg ctc 240
 Ser Gly Ser Lys Ser Gly Thr Ser Val Ser Leu Val Ile Ser Gly Leu
 65 70 75 80

cag gct gag gat gag gct gat tat tat tgc cag tcc tat gac agc agt 288
 Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
 85 90 95

cta agt ggt ttg gta ttc ggc gga ggg acc aag gtg acc gtc cta 333
 Leu Ser Gly Leu Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu
 100 105 110

<210> 41
 <211> 111
 <212> PRT
 <213> Human

<400> 41

Gln Ala Val Leu Thr Gln Pro Ser Ser Val Ser Gly Ala Pro Gly Gln
 5 10 15

Arg Val Thr Ile Ser Cys Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp
 20 25 30

Tyr Asp Val His Trp Tyr Gln Gln Phe Pro Gly Thr Ala Pro Lys Leu
 35 40 45

Leu Ile Tyr Gly His Asn Asn Arg Pro Ser Gly Val Pro Asp Arg Phe
 50 55 60

Ser Gly Ser Lys Ser Gly Thr Ser Val Ser Leu Val Ile Ser Gly Leu
 65 70 75 80

Gln Ala Glu Asp Glu Ala Asp Tyr Tyr Cys Gln Ser Tyr Asp Ser Ser
 85 90 95

Leu Ser Gly Leu Val Phe Gly Gly Gly Thr Lys Val Thr Val Leu
 100 105 110

<210> 42
 <211> 321
 <212> DNA
 <213> Human

<400> 42

gac atc cag ttg acc cag tct cca tct tct gtg tct gca tct gtt gga 48
 Asp Ile Gln Leu Thr Gln Ser Pro Ser Ser Val Ser Ala Ser Val Gly
 5 10 15

gac agc gtc acc atc act tgt cgg gcg agt cag gat att agc agc tgg 96
 Asp Ser Val Thr Ile Thr Cys Arg Ala Ser Gln Asp Ile Ser Ser Trp
 20 25 30

tta gcc tgg tat caa cag aaa cca ggg gag gcc cct aag ctc ctg atc 144
 Leu Ala Trp Tyr Gln Gln Lys Pro Gly Glu Ala Pro Lys Leu Leu Ile
 35 40 45

tat gct gca tcc ctt ctt caa agt ggg gtc cca tca cgg ttc agc ggc 192
 Tyr Ala Ala Ser Leu Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
 50 55 60

agt gga tct ggg aca gat ttc gct ctc act atc aac agc ctg cag cct 240
 Ser Gly Ser Gly Thr Asp Phe Ala Leu Thr Ile Asn Ser Leu Gln Pro
 65 70 75 80

gaa gat ttt gca act tac ttt tgt caa cag gct gac agt ttc cct ccc 288
 Glu Asp Phe Ala Thr Tyr Phe Cys Gln Gln Ala Asp Ser Phe Pro Pro
 85 90 95

acc ttc ggc caa ggg aca cgg ctg gag att aaa 321
 Thr Phe Gly Gln Gly Thr Arg Leu Glu Ile Lys
 100 105

<210> 43
 <211> 107
 <212> PRT
 <213> Human

<400> 43

<210> 44
<211> 321
<212> DNA
<213> Human

gac	atc	gag	ttg	acc	cag	tct	cca	tct	tcc	gtg	tct	gca	tct	gtg	gga	48
Asp	Ile	Glu	Leu	Thr	Gln	Ser	Pro	Ser	Ser	Val	Ser	Ala	Ser	Val	Gly	
				5					10					15		
gac	aga	gtc	acc	ctc	act	tgt	cgg	gcg	agt	cag	agt	att	aag	agg	tgg	96
Asp	Arg	Val	Thr	Leu	Thr	Cys	Arg	Ala	Ser	Gln	Ser	Ile	Lys	Arg	Trp	
			20					25					30			
tta	gcc	tgg	tat	cag	cag	aaa	cca	ggg	aag	gcc	cct	agg	ctc	ctc	atc	144
Leu	Ala	Trp	Tyr	Gln	Gln	Lys	Pro	Gly	Lys	Ala	Pro	Arg	Leu	Leu	Ile	
		35					40					45				
tat	gct	gca	tcc	act	ttg	caa	agt	ggg	gtc	cca	tca	agg	ttc	agc	ggc	192
Tyr	Ala	Ala	Ser	Thr	Leu	Gln	Ser	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly	
	50					55					60					
ggt	gga	tct	ggg	aca	gat	ttc	act	ctc	acc	atc	aac	agc	ctg	cag	cct	240
Gly	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Thr	Ile	Asn	Ser	Leu	Gln	Pro	
	65				70					75					80	
gaa	gat	ttt	gca	att	tac	tac	tgt	caa	cag	gct	aac	agt	ttc	cct	ccc	288
Glu	Asp	Phe	Ala	Ile	Tyr	Tyr	Cys	Gln	Gln	Ala	Asn	Ser	Phe	Pro	Pro	
				85					90					95		
act	ttc	ggc	cct	ggg	acc	aaa	gtg	gat	atc	aaa						321
Thr	Phe	Gly	Pro	Gly	Thr	Lys	Val	Asp	Ile	Lys						
			100					105								

```
<210> 45
<211> 107
<212> PRT
<213> Human
```

17 of 34

<210> 46
<211> 333
<212> DNA
<213> Human

cag	tct	gtc	gtg	acg	cag	ccg	ccc	tca	gtg	tct	ggg	gcc	cca	ggg	cag	48
Gln	Ser	Val	Val	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	
				5					10					15		
agg	gtc	acc	atc	tcc	tgc	agt	ggg	agc	agg	tcc	aac	atc	ggg	gca	cac	96
Arg	Val	Thr	Ile	Ser	Cys	Ser	Gly	Ser	Arg	Ser	Asn	Ile	Gly	Ala	His	
				20					25					30		
tat	gaa	gtc	cag	tgg	tac	cag	cag	ttt	ccg	gga	gca	gcc	ccc	aaa	ctc	144
Tyr	Glu	Val	Gln	Trp	Tyr	Gln	Gln	Phe	Pro	Gly	Ala	Ala	Pro	Lys	Leu	
				35					40					45		
ctc	atc	tat	ggg	gac	acc	aat	cgg	ccc	tca	ggg	gtc	cct	gac	cga	ttc	192
Leu	Ile	Tyr	Gly	Asp	Thr	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	
				50					55					60		
tct	gcc	tcc	cac	tct	ggc	acc	tca	gcc	tcc	ctt	gcc	atc	aca	ggg	ctc	240
Ser	Ala	Ser	His	Ser	Gly	Thr	Ser	Ala	Ser	Leu	Ala	Ile	Thr	Gly	Leu	
				65					70					75		
cag	gct	gag	gat	gag	gct	gat	tat	tac	tgc	cag	tcg	tat	gac	acc	agt	288
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Tyr	Asp	Thr	Ser	
				85					90					95		
cta	cgt	ggg	ccg	gtg	ttc	ggc	gga	ggg	acc	aag	ctg	acc	gtc	cta		333
Leu	Arg	Gly	Pro	Val	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Thr	Val	Leu		
				100					105					110		

<210>	47
<211>	111
<212>	PRT
<213>	Human

18 of 34

<400> 48

cag	tct	gtc	gtg	acg	cag	ccg	ccc	tca	gtg	tct	ggg	gcc	cca	ggg	cag	48
Gln	Ser	Val	Val	Thr	Gln	Pro	Pro	Ser	Val	Ser	Gly	Ala	Pro	Gly	Gln	
				5					10					15		
agg	gtc	acc	atc	tcc	tgc	act	ggg	agc	agc	tcc	aac	atc	ggg	aca	ggt	96
Arg	Val	Thr	Ile	Ser	Cys	Thr	Gly	Ser	Ser	Ser	Asn	Ile	Gly	Thr	Gly	
				20					25					30		
tat	gat	gta	cat	tgg	tac	cag	cag	ggt	cca	gga	tca	gcc	ccc	aaa	ctc	144
Tyr	Asp	Val	His	Trp	Tyr	Gln	Gln	Val	Pro	Gly	Ser	Ala	Pro	Lys	Leu	
				35					40					45		
ctc	atc	tat	gct	tac	acc	aat	cgg	ccc	tca	ggg	gtc	cct	gac	cga	ttc	192
Leu	Ile	Tyr	Ala	Tyr	Thr	Asn	Arg	Pro	Ser	Gly	Val	Pro	Asp	Arg	Phe	
				50					55					60		
tct	ggc	tcc	aag	tct	ggc	atg	tca	gcc	tcc	ctg	gtc	atc	ggg	ggg	ctc	240
Ser	Gly	Ser	Lys	Ser	Gly	Met	Ser	Ala	Ser	Leu	Val	Ile	Gly	Gly	Leu	
				65					70					75		
cag	gct	gag	gat	gag	gct	gat	tat	tac	tgc	cag	tcc	ttt	gac	gac	agc	288
Gln	Ala	Glu	Asp	Glu	Ala	Asp	Tyr	Tyr	Cys	Gln	Ser	Phe	Asp	Asp	Ser	
				85					90					95		
ctg	aat	ggg	ctt	gtc	ttc	gga	cct	ggg	acc	tcg	gtc	acc	gtc	ctc		333
Leu	Asn	Gly	Leu	Val	Phe	Gly	Pro	Gly	Thr	Ser	Val	Thr	Val	Leu		
				100					105					110		

<210>	49
<211>	111
<212>	PRT
<213>	Human

<400> 49

. PCT/US03/06459

<400> 51

<400> 52

gac Asp	atc Ile	cag Gln	atg Met	acc Thr 5	cag Gln	tct Ser	cca Pro	tct Ser	tcc Ser 10	gtg Val	tct Ser	gca Ala	tct Ser 15	ata Ile	gga Gly	48
gac Asp	aga Arg	gtc Val	acc Thr 20	atc Ile	act Thr	tgt Cys	cgg Arg	gcg Ala 25	agt Ser	cag Gln	ggg Gly	att Ile 30	gac Asp 30	aac Asn	tgg Trp	96
tta Leu	ggc Gly 35	tgg Trp	tat Tyr	cag Gln	cag Gln	aaa Lys	cct Pro 40	ggg Gly 40	aaa Lys	gcc Ala	cct Pro 45	aaa Lys 45	ctc Leu	ctg Leu	atc Ile	144
tac Tyr	gat Asp 50	gca Ala	tcc Ser	aat Asn	ttg Leu	gac Asp 55	aca Thr	ggg Gly 55	gtc Val	cca Pro 60	tca Ser 60	agg Arg	ttc Phe	agt Ser	gga Gly	192
agt Ser 65	gga Gly	tct Ser	ggg Gly	aca Thr 70	tat Tyr	ttt Phe 70	act Thr	ctc Leu	acc Thr 75	atc Ile 75	agt Ser 75	agc Ser	ctg Leu	caa Gln 80	gct Ala 80	240
gaa Glu	gat Asp	ttt Phe	gca Ala	gtt Val 85	tat Tyr	ttc Phe	tgt Cys	caa Gln	cag Gln 90	gct Ala	aaa Lys	gct Ala	ttt Phe	cct Pro 95	ccc Pro	288
act Thr	ttc Phe	ggc Gly	gga Gly 100	ggg Gly 100	acc Thr	aag Lys	gtg Val	gac Asp 105	atc Ile 105	aaa Lys						321

<210>	53
<211>	107
<212>	PRT
<213>	Human

<400> 53

Arg Ala Ser Gln Asn Ile Asn Asn Tyr Leu Asn
5 10

<210> 58
<211> 7
<212> PRT
<213> Human

<400> 58

Ala Ala Ser Thr Leu Gln Ser
5

<210> 59
<211> 9
<212> PRT
<213> Human

<400> 59

Gln Gln Tyr Ser Arg Tyr Pro Pro Thr
5

<210> 60
<211> 14
<212> PRT
<213> Human

<400> 60

Thr Gly Ser Ser Thr Asp Val Gly Asn Tyr Asn Tyr Ile Ser
5 10

<210> 61
<211> 7
<212> PRT
<213> Human

<400> 61

Asp Val Thr Ser Arg Pro Ser
5

<210> 62
<211> 10
<212> PRT
<213> Human

<400> 62

Asn Ser Tyr Ser Ala Thr Asp Thr Leu Val
5 10

<210> 63
<211> 14
<212> PRT
<213> Human

<400> 63

Thr Gly Gln Ser Ser Asn Ile Gly Ala Asp Tyr Asp Val His
5 10

<210> 64
<211> 7
<212> PRT
<213> Human

<400> 64

Gly His Asn Asn Arg Pro Ser
5

<210> 65
<211> 11
<212> PRT
<213> Human

<400> 65

Gln Ser Tyr Asp Ser Ser Leu Ser Gly Leu Val
5 10

<210> 66
<211> 11
<212> PRT
<213> Human

<400> 66

Arg Ala Ser Gln Asp Ile Ser Ser Trp Leu Ala
5 10

<210> 67
<211> 7
<212> PRT
<213> Human

<400> 67

Ala Ala Ser Leu Leu Gln Ser
5

<210> 68
<211> 9
<212> PRT
<213> Human

<400> 68

Gln Gln Ala Asp Ser Phe Pro Pro Thr
5

<210> 69
<211> 11
<212> PRT
<213> Human

<400> 69

Arg Ala Ser Gln Ser Ile Lys Arg Trp Leu Ala
5 10

<210> 70
<211> 7
<212> PRT
<213> Human

<400> 70

Ala Ala Ser Thr Leu Gln Ser
5

<210> 71
<211> 9
<212> PRT
<213> Human

<400> 71

Gln Gln Ala Asn Ser Phe Pro Pro Thr
5

<210> 72
<211> 14
<212> PRT
<213> Human

<400> 72

Ser Gly Ser Arg Ser Asn Ile Gly Ala His Tyr Glu Val Gln
5 10

<210> 73
<211> 7
<212> PRT
<213> Human

<400> 73

Gly Asp Thr Asn Arg Pro Ser
5

<210> 74
<211> 11
<212> PRT
<213> Human

<400> 74

Gln Ser Tyr Asp Thr Ser Leu Arg Gly Pro Val
5 10

<210> 75
<211> 14
<212> PRT
<213> Human

<400> 75

Thr Gly Ser Ser Ser Asn Ile Gly Thr Gly Tyr Asp Val His
5 10

<210> 76
<211> 7
<212> PRT
<213> Human

<400> 76

Ala Tyr Thr Asn Arg Pro Ser
5

<210> 77
<211> 11
<212> PRT
<213> Human

<400> 77

Gln Ser Phe Asp Asp Ser Leu Asn Gly Leu Val
5 10

<210> 78
<211> 14
<212> PRT
<213> Human

<400> 78

Thr Gly Ser His Ser Asn Phe Gly Ala Gly Thr Asp Val His
5 10

<210> 79
<211> 7
<212> PRT
<213> Human

<400> 79

Gly Asp Thr His Arg Pro Ser
5

<210> 80
<211> 11
<212> PRT
<213> Human

<400> 80

Gln Ser Tyr Asp Tyr Gly Leu Arg Gly Trp Val
5 10

<210> 81
<211> 11
<212> PRT
<213> Human

<400> 81

Arg Ala Ser Gln Gly Ile Asp Asn Trp Leu Gly
5 10

<210> 82
 <211> 7
 <212> PRT
 <213> Human

<400> 82

Asp Ala Ser Asn Leu Asp Thr
 5

<210> 83
 <211> 9
 <212> PRT
 <213> Human

<400> 83

Gln Gln Ala Lys Ala Phe Pro Pro Thr
 5

<210> 84
 <211> 2351
 <212> DNA
 <213> Human

<400> 84

```

ggtaccgag aaagaaccgg ctcccgagtt ctgggcattt cgcccggtc gaggtgcagg      59

atg  cag  agc  aag  gtg  ctg  ctg  gcc  gtc  gcc  ctg  tgg  ctc  tgc  gtg  gag      107
Met  Gln  Ser  Lys  Val  Leu  Leu  Ala  Val  Ala  Leu  Trp  Leu  Cys  Val  Glu
                    5                      10                      15

acc  cgg  gcc  gcc  tct  gtg  ggt  ttg  cct  agt  gtt  tct  ctt  gat  ctg  ccc      155
Thr  Arg  Ala  Ala  Ser  Val  Gly  Leu  Pro  Ser  Val  Ser  Leu  Asp  Leu  Pro
                    20                      25                      30

agg  ctc  agc  ata  caa  aaa  gac  ata  ctt  aca  att  aag  gct  aat  aca  act      203
Arg  Leu  Ser  Ile  Gln  Lys  Asp  Ile  Leu  Thr  Ile  Lys  Ala  Asn  Thr  Thr
                    35                      40                      45

ctt  caa  att  act  tgc  agg  gga  cag  agg  gac  ttg  gac  tgg  ctt  tgg  ccc      251
Leu  Gln  Ile  Thr  Cys  Arg  Gly  Gln  Arg  Asp  Leu  Asp  Trp  Leu  Trp  Pro
                    50                      55                      60

aat  aat  cag  agt  ggc  agt  gag  caa  agg  gtg  gag  gtg  act  gag  tgc  agc      299
Asn  Asn  Gln  Ser  Gly  Ser  Glu  Gln  Arg  Val  Glu  Val  Thr  Glu  Cys  Ser
                    65                      70                      75                      80

gat  ggc  ctc  ttc  tgt  aag  aca  ctc  aca  att  cca  aaa  gtg  atc  gga  aat      347
Asp  Gly  Leu  Phe  Cys  Lys  Thr  Leu  Thr  Ile  Pro  Lys  Val  Ile  Gly  Asn
                    85                      90                      95

gac  act  gga  gcc  tac  aag  tgc  ttc  tac  cgg  gaa  act  gac  ttg  gcc  tcg      395
Asp  Thr  Gly  Ala  Tyr  Lys  Cys  Phe  Tyr  Arg  Glu  Thr  Asp  Leu  Ala  Ser
                    100                     105                     110

gtc  att  tat  gtc  tat  gtt  caa  gat  tac  aga  tct  cca  ttt  att  gct  tct      443
Val  Ile  Tyr  Val  Tyr  Val  Gln  Asp  Tyr  Arg  Ser  Pro  Phe  Ile  Ala  Ser
                    115                     120                     125

gtt  agt  gac  caa  cat  gga  gtc  gtg  tac  att  act  gag  aac  aaa  aac  aaa      491
Val  Ser  Asp  Gln  His  Gly  Val  Val  Tyr  Ile  Thr  Glu  Asn  Lys  Asn  Lys

```

130	135	140	
act gtg gtg att cca tgt ctc ggg tcc att tca aat ctc aac gtg tca			539
Thr Val Val Ile Pro Cys Leu Gly Ser Ile Ser Asn Leu Asn Val Ser			
145	150	155	160
ctt tgt gca aga tac cca gaa aag aga ttt gtt cct gat ggt aac aga			587
Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg			
	165	170	175
att tcc tgg gac agc aag aag ggc ttt act att ccc agc tac atg atc			635
Ile Ser Trp Asp Ser Lys Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile			
	180	185	190
agc tat gct ggc atg gtc ttc tgt gaa gca aaa att aat gat gaa agt			683
Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Ser			
	195	200	205
tac cag tct att atg tac ata gtt gtc gtt gta ggg tat agg att tat			731
Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg Ile Tyr			
	210	215	220
gat gtg gtt ctg agt ccg tct cat gga att gaa cta tct gtt gga gaa			779
Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu			
	225	230	240
aag ctt gtc tta aat tgt aca gca aga act gaa cta aat gtg ggg att			827
Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile			
	245	250	255
gac ttc aac tgg gaa tac cct tct tcg aag cat cag cat aag aaa ctt			875
Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu			
	260	265	270
gta aac cga gac cta aaa acc cag tct ggg agt gag atg aag aaa ttt			923
Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe			
	275	280	285
ttg agc acc tta act ata gat ggt gta acc cgg agt gac caa gga ttg			971
Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu			
	290	295	300
tac acc tgt gca gca tcc agt ggg ctg atg acc aag aag aac agc aca			1019
Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr			
	305	310	320
ttt gtc agg gtc cat gaa aaa cct ttt gtt gct ttt gga agt ggc atg			1067
Phe Val Arg Val His Glu Lys Pro Phe Val Ala Phe Gly Ser Gly Met			
	325	330	335
gaa tct ctg gtg gaa gcc acg gtg ggg gag cgt gtc aga atc cct gcg			1115
Glu Ser Leu Val Glu Ala Thr Val Gly Glu Arg Val Arg Ile Pro Ala			
	340	345	350
aag tac ctt ggt tac cca ccc cca gaa ata aaa tgg tat aaa aat gga			1163
Lys Tyr Leu Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr Lys Asn Gly			
	355	360	365
ata ccc ctt gag tcc aat cac aca att aaa gcg ggg cat gta ctg acg			1211
Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly His Val Leu Thr			
	370	375	380
att atg gaa gtg agt gaa aga gac aca gga aat tac act gtc atc ctt			1259
Ile Met Glu Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu			
	385	390	400

acc	aat	ccc	att	tca	aag	gag	aag	cag	agc	cat	gtg	gtc	tct	ctg	gtt	1307
Thr	Asn	Pro	Ile	Ser	Lys	Glu	Lys	Gln	Ser	His	Val	Val	Ser	Leu	Val	
				405					410					415		
gtg	tat	gtc	cca	ccc	cag	att	ggc	gag	aaa	tct	cta	atc	tct	cct	gtg	1355
Val	Tyr	Val	Pro	Pro	Gln	Ile	Gly	Glu	Lys	Ser	Leu	Ile	Ser	Pro	Val	
			420					425					430			
gat	tcc	tac	cag	tac	ggc	acc	act	caa	acg	ctg	aca	tgt	acg	gtc	tat	1403
Asp	Ser	Tyr	Gln	Tyr	Gly	Thr	Thr	Gln	Thr	Leu	Thr	Cys	Thr	Val	Tyr	
		435					440						445			
gcc	att	cct	ccc	ccg	cat	cac	atc	cac	tgg	tat	tgg	cag	ttg	gag	gaa	1451
Ala	Ile	Pro	Pro	Pro	His	His	Ile	His	Trp	Tyr	Trp	Gln	Leu	Glu	Glu	
	450					455					460					
gag	tgc	gcc	aac	gag	ccc	agc	cat	gct	gtc	tca	gtg	aca	aac	cca	tac	1499
Glu	Cys	Ala	Asn	Glu	Pro	Ser	His	Ala	Val	Ser	Val	Thr	Asn	Pro	Tyr	
	465				470					475					480	
cct	tgt	gaa	gaa	tgg	aga	agt	gtg	gag	gac	ttc	cag	gga	gga	aat	aaa	1547
Pro	Cys	Glu	Glu	Trp	Arg	Ser	Val	Glu	Asp	Phe	Gln	Gly	Gly	Asn	Lys	
				485					490					495		
att	gaa	gtt	aat	aaa	aat	caa	ttt	gct	cta	att	gaa	gga	aaa	aac	aaa	1595
Ile	Glu	Val	Asn	Lys	Asn	Gln	Phe	Ala	Leu	Ile	Glu	Gly	Lys	Asn	Lys	
			500					505					510			
act	gta	agt	acc	ctt	gtt	atc	caa	gcg	gca	aat	gtg	tca	gct	ttg	tac	1643
Thr	Val	Ser	Thr	Leu	Val	Ile	Gln	Ala	Ala	Asn	Val	Ser	Ala	Leu	Tyr	
			515				520					525				
aaa	tgt	gaa	gcg	gtc	aac	aaa	gtc	ggg	aga	gga	gag	agg	gtg	atc	tcc	1691
Lys	Cys	Glu	Ala	Val	Asn	Lys	Val	Gly	Arg	Gly	Glu	Arg	Val	Ile	Ser	
	530					535					540					
ttc	cac	gtg	acc	agg	ggc	cct	gaa	att	act	ttg	caa	cct	gac	atg	cag	1739
Phe	His	Val	Thr	Arg	Gly	Pro	Glu	Ile	Thr	Leu	Gln	Pro	Asp	Met	Gln	
	545				550					555					560	
ccc	act	gag	cag	gag	agc	gtg	tct	ttg	tgg	tgc	act	gca	gac	aga	tct	1787
Pro	Thr	Glu	Gln	Glu	Ser	Val	Ser	Leu	Trp	Cys	Thr	Ala	Asp	Arg	Ser	
				565					570					575		
acg	ttt	gag	aac	ctc	aca	tgg	tac	aag	ctt	ggc	cca	cag	cct	ctg	cca	1835
Thr	Phe	Glu	Asn	Leu	Thr	Trp	Tyr	Lys	Leu	Gly	Pro	Gln	Pro	Leu	Pro	
			580					585					590			
atc	cat	gtg	gga	gag	ttg	ccc	aca	cct	gtt	tgc	aag	aac	ttg	gat	act	1883
Ile	His	Val	Gly	Glu	Leu	Pro	Thr	Pro	Val	Cys	Lys	Asn	Leu	Asp	Thr	
		595				600						605				
ctt	tgg	aaa	ttg	aat	gcc	acc	atg	ttc	tct	aat	agc	aca	aat	gac	att	1931
Leu	Trp	Lys	Leu	Asn	Ala	Thr	Met	Phe	Ser	Asn	Ser	Thr	Asn	Asp	Ile	
	610					615					620					
ttg	atc	atg	gag	ctt	aag	aat	gca	tcc	ttg	cag	gac	caa	gga	gac	tat	1979
Leu	Ile	Met	Glu	Leu	Lys	Asn	Ala	Ser	Leu	Gln	Asp	Gln	Gly	Asp	Tyr	
	625				630					635				640		
gtc	tgc	ctt	gct	caa	gac	agg	aag	acc	aag	aaa	aga	cat	tgc	gtg	gtc	2027
Val	Cys	Leu	Ala	Gln	Asp	Arg	Lys	Thr	Lys	Lys	Arg	His	Cys	Val	Val	
				645					650					655		
agg	cag	ctc	aca	gtc	cta	gag	cgt	gtg	gca	ccc	acg	atc	aca	gga	aac	2075

Arg Gln Leu Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn
 660 665 670
 ctg gaa aat cag acg aca agt att ggg gaa agc atc gaa gtc tca tgc 2123
 Leu Glu Asn Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys
 675 680 685
 acg gca tct ggg aat ccc cct cca cag atc atg tgg tat aaa gat aat 2171
 Thr Ala Ser Gly Asn Pro Pro Gln Ile Met Trp Phe Lys Asp Asn
 690 695 700
 gag acc ctt gta gaa gac tca ggc att gta ttg aag gat ggg aac cgg 2219
 Glu Thr Leu Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg
 705 710 715 720
 aac ctc act atc cgc aga gtg agg aag gag gac gaa ggc ctc tac acc 2267
 Asn Leu Thr Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr
 725 730 735
 tgc cag gca tgc agt gtt ctt ggc tgt gca aaa gtg gag gca ttt ttc 2315
 Cys Gln Ala Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe
 740 745 750
 ata ata gaa ggt gcc cag gaa aag acg aac ttg gaa 2351
 Ile Ile Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu
 755 760

<210> 85
 <211> 764
 <212> PRT
 <213> Human

<400> 85

Met Gln Ser Lys Val Leu Leu Ala Val Ala Leu Trp Leu Cys Val Glu
 5 10 15
 Thr Arg Ala Ala Ser Val Gly Leu Pro Ser Val Ser Leu Asp Leu Pro
 20 25 30
 Arg Leu Ser Ile Gln Lys Asp Ile Leu Thr Ile Lys Ala Asn Thr Thr
 35 40 45
 Leu Gln Ile Thr Cys Arg Gly Gln Arg Asp Leu Asp Trp Leu Trp Pro
 50 55 60
 Asn Asn Gln Ser Gly Ser Glu Gln Arg Val Glu Val Thr Glu Cys Ser
 65 70 75 80
 Asp Gly Leu Phe Cys Lys Thr Leu Thr Ile Pro Lys Val Ile Gly Asn
 85 90 95
 Asp Thr Gly Ala Tyr Lys Cys Phe Tyr Arg Glu Thr Asp Leu Ala Ser
 100 105 110
 Val Ile Tyr Val Tyr Val Gln Asp Tyr Arg Ser Pro Phe Ile Ala Ser
 115 120 125
 Val Ser Asp Gln His Gly Val Val Tyr Ile Thr Glu Asn Lys Asn Lys
 130 135 140
 Thr Val Val Ile Pro Cys Leu Gly Ser Ile Ser Asn Leu Asn Val Ser
 145 150 155 160

Leu Cys Ala Arg Tyr Pro Glu Lys Arg Phe Val Pro Asp Gly Asn Arg
 165 170 175
 Ile Ser Trp Asp Ser Lys Lys Gly Phe Thr Ile Pro Ser Tyr Met Ile
 180 185 190
 Ser Tyr Ala Gly Met Val Phe Cys Glu Ala Lys Ile Asn Asp Glu Ser
 195 200 205
 Tyr Gln Ser Ile Met Tyr Ile Val Val Val Val Gly Tyr Arg Ile Tyr
 210 215 220
 Asp Val Val Leu Ser Pro Ser His Gly Ile Glu Leu Ser Val Gly Glu
 225 230 235 240
 Lys Leu Val Leu Asn Cys Thr Ala Arg Thr Glu Leu Asn Val Gly Ile
 245 250 255
 Asp Phe Asn Trp Glu Tyr Pro Ser Ser Lys His Gln His Lys Lys Leu
 260 265 270
 Val Asn Arg Asp Leu Lys Thr Gln Ser Gly Ser Glu Met Lys Lys Phe
 275 280 285
 Leu Ser Thr Leu Thr Ile Asp Gly Val Thr Arg Ser Asp Gln Gly Leu
 290 295 300
 Tyr Thr Cys Ala Ala Ser Ser Gly Leu Met Thr Lys Lys Asn Ser Thr
 305 310 315 320
 Phe Val Arg Val His Glu Lys Pro Phe Val Ala Phe Gly Ser Gly Met
 325 330 335
 Glu Ser Leu Val Glu Ala Thr Val Gly Glu Arg Val Arg Ile Pro Ala
 340 345 350
 Lys Tyr Leu Gly Tyr Pro Pro Pro Glu Ile Lys Trp Tyr Lys Asn Gly
 355 360 365
 Ile Pro Leu Glu Ser Asn His Thr Ile Lys Ala Gly His Val Leu Thr
 370 375 380
 Ile Met Glu Val Ser Glu Arg Asp Thr Gly Asn Tyr Thr Val Ile Leu
 385 390 395 400
 Thr Asn Pro Ile Ser Lys Glu Lys Gln Ser His Val Val Ser Leu Val
 405 410 415
 Val Tyr Val Pro Pro Gln Ile Gly Glu Lys Ser Leu Ile Ser Pro Val
 420 425 430
 Asp Ser Tyr Gln Tyr Gly Thr Thr Gln Thr Leu Thr Cys Thr Val Tyr
 435 440 445
 Ala Ile Pro Pro Pro His His Ile His Trp Tyr Trp Gln Leu Glu Glu
 450 455 460
 Glu Cys Ala Asn Glu Pro Ser His Ala Val Ser Val Thr Asn Pro Tyr
 465 470 475 480
 Pro Cys Glu Glu Trp Arg Ser Val Glu Asp Phe Gln Gly Gly Asn Lys
 485 490 495
 Ile Glu Val Asn Lys Asn Gln Phe Ala Leu Ile Glu Gly Lys Asn Lys
 500 505 510

Thr Val Ser Thr Leu Val Ile Gln Ala Ala Asn Val Ser Ala Leu Tyr
 515 520 525
 Lys Cys Glu Ala Val Asn Lys Val Gly Arg Gly Glu Arg Val Ile Ser
 530 535 540
 Phe His Val Thr Arg Gly Pro Glu Ile Thr Leu Gln Pro Asp Met Gln
 545 550 555 560
 Pro Thr Glu Gln Glu Ser Val Ser Leu Trp Cys Thr Ala Asp Arg Ser
 565 570 575
 Thr Phe Glu Asn Leu Thr Trp Tyr Lys Leu Gly Pro Gln Pro Leu Pro
 580 585 590
 Ile His Val Gly Glu Leu Pro Thr Pro Val Cys Lys Asn Leu Asp Thr
 595 600 605
 Leu Trp Lys Leu Asn Ala Thr Met Phe Ser Asn Ser Thr Asn Asp Ile
 610 615 620
 Leu Ile Met Glu Leu Lys Asn Ala Ser Leu Gln Asp Gln Gly Asp Tyr
 625 630 635 640
 Val Cys Leu Ala Gln Asp Arg Lys Thr Lys Lys Arg His Cys Val Val
 645 650 655
 Arg Gln Leu Thr Val Leu Glu Arg Val Ala Pro Thr Ile Thr Gly Asn
 660 665 670
 Leu Glu Asn Gln Thr Thr Ser Ile Gly Glu Ser Ile Glu Val Ser Cys
 675 680 685
 Thr Ala Ser Gly Asn Pro Pro Pro Gln Ile Met Trp Phe Lys Asp Asn
 690 695 700
 Glu Thr Leu Val Glu Asp Ser Gly Ile Val Leu Lys Asp Gly Asn Arg
 705 710 715 720
 Asn Leu Thr Ile Arg Arg Val Arg Lys Glu Asp Glu Gly Leu Tyr Thr
 725 730 735
 Cys Gln Ala Cys Ser Val Leu Gly Cys Ala Lys Val Glu Ala Phe Phe
 740 745 750
 Ile Ile Glu Gly Ala Gln Glu Lys Thr Asn Leu Glu
 755 760

<210> 86

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for VEGF

<400> 86

tcgggcctcc gaaaccatga

20

<210> 87

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for VEGF

<400> 87

cctggtgaga gatctggttc

20

<210> 88

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for Flt-1

<400> 88

tttgtgattt tggccttgc

19

<210> 89

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for Flt-1

<400> 89

caggctcatg aacttgaaag c

21

<210> 90

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for KDR

<400> 90

gtgaccaaca tggagtcgtg

20

<210> 91

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for KDR

<400> 91

ccagagattc catgccactt

20

<210> 92

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for KDR

<400> 92

tcattgtttga gaccttcaa

19

<210> 93

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> amplification primer for KDR

<400> 93

gtcttttgcgg atgtccacg

19